



THE UNITED STATES PATENT AND TRADEMARK OFFICE

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SUPPLEMENTAL DECLARATION

As the named inventor on the above-referenced pending United States patent application, I hereby declare that I believe that I invented the subject matter that is presently claimed in the United States patent application referenced above, that I am the sole, original inventor of such subject matter and further that I understand that the claims pending in the United States patent application referenced above are those attached hereto as Attachment 1.

I hereby further declare that the subject matter defined by the attached claims as currently pending in the above-referenced United States patent application was part of my invention and was invented by me before the effective filing date to which the application, as above identified, is entitled.

I hereby further state that I have again reviewed and affirm that I understand the contents of the application specification, including the claims pending in the application as such claims are attached hereto as Attachment 1.

I again acknowledge the duty to disclose information, which is material to patentability as defined in Title 37 of the Code of Federal Regulations of United States of America, Section 1.56, and which is material to the examination of the patent application as identified above, namely, information where there is a substantial likelihood that a reasonable patent examiner in the

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United States Patent and Trademark Office would consider that information important in deciding whether to allow the application to issue as a United States patent. I further declare and affirm that I have disclosed all such information through the attorney of record to the United States Patent and Trademark Office and have received copies of such submissions as made to the United States Patent and Trademark Office from our attorneys.

I hereby further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the patent application referenced above or of any patent to issue therefrom.

Date:

5/25/05



Stephen B. Maguire



Attachment 1

18. A low pressure dryer for granular or powdery material comprising:
 - a. a frame;
 - b. a plurality of canisters movably carried on said frame at least among material heating and vacuum drying positions;
 - c. a material fill hopper supported by said frame;
 - d. a valve supported by said frame for permitting downward flow of material from said fill hopper into a movable canister located below said fill hopper; and
 - e. means for sensing presence of a canister below said fill hopper and disabling said valve from opening in the absence of a canister thereat.
23. A plastics resin material dryer comprising:
 - a. a rotatable carousel including vertically oriented vane means for vertically supporting a manually removable canister and moving said canister among heating and vacuum drying positions;
 - b. means for rotatably moving said carousel and supported canisters at least among said heating and vacuum drying positions;
 - c. at least one canister for holding resin material being manually mountable on and removable from said carousel and being moved by carousel rotation at least among said heating and vacuum drying positions; and
 - d. manually deactuable latching means for retaining a canister lowered into position on said carousel in locking engagement therewith.
24. The dryer of claim 23 wherein said carousel comprises:

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- a. a first set of vertically elongated equi-angularly spaced blades; and
 - b. a plurality of second sets of vertically elongated blades, connected to respective blades of said first set, with the blades of respective second sets and an associated connected blade of said first set being equi-angularly spaced.
26. A vacuum dryer for granular or powdery material including:
- a. at least one canister movable serially among at least material heating and vacuum drying positions;
 - b. means for moving said canister among at least said heating and vacuum drying positions;
 - c. a blower;
 - d. a fitting for connecting a canister at the vacuum drying position to a source of vacuum; and
 - e. a manifold for selectively directing air from said blower either to a canister at said heating position or to a delivery device portion of said dryer for pneumatic conveyance of dried granular material from said dryer to a receptacle for molding or extrusion.
27. The dryer of claim 26 wherein said delivery device receives dried granular material via downward flow from a canister.
28. The dryer of claim 27 wherein said canister furnishing said granular material to said delivery device is removed from said material heating and vacuum drying positions.

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29. The dryer of claim 26 wherein said canisters are movable serially and sequentially among said heating and vacuum drying positions and a third material inventory management position.
30. The dryer of claim 29 wherein said canisters are emptied of material at said third position.
31. The dryer of claim 29 wherein said canisters are drained of material at said third position.
32. The dryer of claim 29 wherein said canisters are loaded with material at said third position.
33. The dryer of claim 31 wherein said canisters are loaded with material at said third position.
34. The dryer of claim 26 wherein said canisters are cylindrical.
35. The dryer of claim 34 wherein said canisters are oriented with their axes vertical.
36. The dryer of claim 35 wherein said canisters move about a common vertical axis.
37. In a vacuum dryer for granular or powdery material including:
 - a. a plurality of canisters rotatable about a common vertical axis serially among material heating, vacuum drying and material inventory management positions;
 - b. means for moving said canisters about said axis among said heating, vacuum drying and material inventory management positions;
 - c. means for heating contents of a canister at the heating position;
 - d. means for drawing vacuum in a canister at the vacuum drying position;

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the improvement by which said moving means further comprises:

e. a carousel rotatable about said axis for carrying said canisters among said heating, vacuum drying and material inventory management positions, comprising a plurality of vanes extending radially outwardly from a vertically extending axial shaft, said vanes having upwardly facing vertices for receiving pins extending outwardly from said canisters thereby to vertically support said canisters as said carousel rotates.

38. The dryer of claim 37 wherein said upwardly facing vertices receive first pins extending outwardly from said canisters and said vanes further include:

a. downwardly facing vertices for receiving second pins extending outwardly from said canisters below said first pins; and

b. manually actuatable latches for retaining said second pins in said downwardly facing vertices.

39. The dryer of claim 38 wherein said latches are rotatable between positions at which said second pins are retained in said downwardly facing vertices and at which said second pins may fall freely out of said downwardly facing vertices.

40. The dryer of claim 39 wherein said latches, in said position at which said second pins are retained in said downwardly facing vertices, bear against said pins with downwardly directed surfaces which are transverse to and radially spaced from a pivotal connection of said latch to an associated vane.

41. The dryer of claim 39 wherein said latches, in said position at which said second pins are retained in said downwardly facing vertices, bear against said pins with

downwardly directed surfaces so that force received from said pins due to weight of said canister transfers to a vane along a line passing through pivotal connection of said latch and said latches are precluded from rotation about said pivotal connection.

42. The dryer of claim 37 wherein said canisters have curved exterior surfaces and said dryer further comprises resilient insulative covers fitting around said curved exterior surfaces with said covers including closure means for pulling respective edges of said covers towards one another thereby resiliently retaining said covers in place on said canisters.

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